

D. KRUSE

#19



Re-RUN

1600

RAW SEQUENCE LISTING

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:31

Input Set : N:\vernnette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

C--> 1 <110> APPLICANT: Sommerville, Chris
 2 Schieble, Wolf
 3 <120> TITLE OF INVENTION: Modified Cellulose Synthase Gene from Arabidopsis Thaliana
 4 Confers Herbicide Resistance to Plant
 5 <130> FILE REFERENCE: s-93,994
 6 <140> CURRENT APPLICATION NUMBER: US/09/686,234D
 7 <141> CURRENT FILING DATE: 2000-10-11
 8 <160> NUMBER OF SEQ ID NOS: 27
 9 <170> SOFTWARE: PatentIn version 3.2
 11 <210> SEQ ID NO: 1
 12 <211> LENGTH: 3563
 13 <212> TYPE: DNA
 14 <213> ORGANISM: Artificial
 15 <220> FEATURE:
 16 <223> OTHER INFORMATION: IXR-1-1 mutant
 17 <400> SEQUENCE: 1

18	atcccaagat	tctcctcttc	gtcttcctta	taaactatct	ctctgtagag	aagaaagctt	60
19	ggatccagat	tgagagagat	tcagagagcc	acatcaccac	actccatctt	cagatctcat	120
20	gatttgaact	attccgacgt	ttcggtgttg	gaagcaacta	agtgaacaa	ggaatccgaa	180
21	ggggaaaccg	cgggaaagcc	gatgaagaac	attgttccgc	agacttgcca	gatctgtagt	240
22	gacaatgttg	gcaagactgt	tgatggagat	cgtttgtg	cttgatgat	ttgttcattc	300
23	ccagtttgtc	ggccttgcta	cgagtatgag	aggaaagatg	ggaatcaatc	ttgtcctcag	360
24	tgcaaaaacca	gatacaagag	gctcaaaggt	agtcctgcta	ttcctggtga	ttaaagacgag	420
25	gatggcttag	ctgatgaagg	tactgttgag	ttcaactacc	ctcagaagga	gaaaatttca	480
26	gagcggatgc	ttggttgga	tcttactcgt	gggaaggag	aggaaatggg	ggaaccccgag	540
27	tatgataaag	aggtctctca	caatcatctt	cctcgtctca	cgagcagaca	agatacttca	600
28	ggagagtttt	ctgctgcctc	acctgaacgc	ctctctgtat	cttctactat	cgctggggga	660
29	aagcgccttc	cctattcatc	agatgtcaat	caatcaccaa	atagaaggat	tgtggatcct	720
30	gttggactcg	ggaatgtagc	ttggaaggag	agagttgatg	gctggaaaat	gaagcaagag	780
31	aagaatactg	gtcctgtcag	cacgcaggct	gcttctgaaa	gaggtggagt	agatattgat	840
32	gccagcacag	atatcctagc	agatgaggct	ctgctgaatg	acgaagcgag	gcagcctctg	900
33	tcaaggaaaag	tttcaattcc	ttcatcacgg	atcaatcctt	acagaatggt	tattatgctg	960
34	cggcttgta	tcctttgtct	cttcttgcat	taccgtataa	caaaccagct	gccaaatgcc	1020
35	tttgctctat	ggctggtctc	tgatgatagt	gagatctggt	ttgccttatc	ctggattttg	1080
36	gatcagtttc	ccaagtgtgt	tcctgtgaac	cgtgaaacct	acctcgacag	gcttgcttta	1140
37	agatatgatc	gtgaagggtga	gccatcacag	ttagctgctg	ttgacatttt	cgtgagtact	1200
38	gttgaccctc	tgaaggagcc	acccttgtg	acagccaaca	cagtgtctct	tattctggct	1260
39	gttgactacc	cagttgacaa	ggtgtcctgt	tatgtttttg	atgatggtgc	tgctatgtta	1320
40	tcatttgaat	cacttgacga	aacatcacag	tttgctcgta	aatgggtacc	attttgcaag	1380
41	aaatatagca	tagagcctcg	tgaccagaaa	tgggtactttg	ctgcgaaaat	agattacttg	1440
42	aaggataaag	ttcagacatc	atgtgtcaaa	gatcgtagag	ctatgaagag	ggaatatgag	1500
43	gaatttaaaa	tccgaatcaa	tgacttgtt	tccaaaagccc	taaaatgtcc	tgaagaaggg	1560
44	tgggttatgc	aagatggcac	accgtggcct	ggaaataata	caggggacca	tccaggaatg	1620

ENTERED

RAW SEQUENCE LISTING

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:31

Input Set : N:\vernette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

45	atccaggctct	tcttagggca	aaatgggtgga	cttgatgcag	agggcaatga	gctcccgct	1680
46	ttggtatatg	tttctcgaga	aaagcgacca	ggattccagc	accacaaaaa	ggctgggtgct	1740
47	atgaatgcac	tgggtgagagt	ttcagcagtt	cttaccaatg	gacctttcat	cttgaatctt	1800
48	gatttgtatc	attacataaa	taacagcaaa	gccttaagag	aagcaatgtg	cttcctgatg	1860
49	gacccaaacc	tcggaagca	agtttggtat	gttcagttcc	cacaaagatt	tgatggtatc	1920
50	gataagaacg	atagatatgc	taatcgtaat	accgtgttct	ttgatattaa	cttgagaggt	1980
51	ttagatggga	ttcaaggacc	tgtatatgtc	ggaactggat	gtgttttcaa	cagaacagca	2040
52	ttatacggtt	atgaacctcc	aataaaaagta	aaacacaaga	agccaagtct	tttatctaag	2100
53	ctctgtggtg	gatcaagaaa	gaagaattcc	aaagctaaga	aagagtcgga	caaaaagaaa	2160
54	tcaggcaggc	atactgactc	aactgttcct	gtattcaacc	tcgatgacat	agaagaggga	2220
55	gttgaaaggtg	ctgggtttga	tgatgaaaag	gcgctcttaa	tgtcgcaaat	gagcctggag	2280
56	aagcgatttg	gacagtctgc	tgtttttggt	gcttctaccc	taatggaaaa	tgggtggtgtt	2340
57	cctccttcag	caactccaga	aaaccttctc	aaagaggcta	tccatgtcat	tagttgtggt	2400
58	tatgaggata	agtcagattg	gggaatggag	attggatgga	tctatggttc	tgtgacagaa	2460
59	gatattctga	ctgggttcaa	aatgcatgcc	cgtggatggc	gatccattta	ctgcatgcct	2520
60	aagcttccag	ctttcaaggg	ttctgctcct	atcaatcttt	cagatcgtct	gaaccaagtg	2580
61	ctgaggtggg	ctttaggttc	agttgagatt	ctcttcagtc	ggcattgtcc	tatatggtat	2640
62	ggttacaatg	ggaggctaaa	atttcttgag	aggtttgcgt	atgtgaacac	caccatctac	2700
63	cctatcacct	ccattcctct	tctcatgtat	tgtacattgc	tagccgtttg	tctcttcacc	2760
64	aaccagttta	ttattcctca	gattagtaac	attgcaagta	tatggtttct	gtctctcttt	2820
65	ctctccattt	tcgccacggg	tatactagaa	atgaggtgga	gtggcgtagg	catagacgaa	2880
66	tgggtggagaa	acgagcagtt	ttgggtcatt	ggtggagtat	ccgctcattt	attcgctgtg	2940
67	tttcaaggta	tcctcaaagt	ccttgccggt	attgacacaa	acttcacagt	tatctcaaaa	3000
68	gcttcagatg	aagacggaga	ctttgctgag	ctctacttgt	tcaaatggac	aacacttctg	3060
69	attccgcaa	cgacgctgct	cattgtaaac	ttagtgggag	ttgttgacag	agtctcttat	3120
70	gctatcaaca	gtggatacca	atcatgggga	ccactctttg	gtaagttggt	ctttgccttc	3180
71	tgggtgattg	ttcacttgta	ccctttcctc	aagggtttga	tgggtcgaca	gaaccggact	3240
72	cctaccattg	ttgtggtctg	gtctgttctc	ttggcttcta	tcttctcggt	gtgtgtggtt	3300
73	aggattgatc	ccttcactag	ccgagtcact	ggcccggaca	ttctggaatg	tggaatcaac	3360
74	tgttgagaag	cgagcaaata	tttacctgtt	ttgaggggta	aaaaaaacac	agaatttaaa	3420
75	ttatttttca	ttgttttatt	tgttcacttt	tttacttttg	ttgtgtgtat	ctgtctgttc	3480
76	gttcttctgt	cttgggtgtca	taaatttatg	tgtagaatat	atcttactct	agttactttg	3540
77	gaaagttata	attaaagtga	aag				3563
79	<210>	SEQ ID NO: 2					
80	<211>	LENGTH: 3563					
81	<212>	TYPE: DNA					
82	<213>	ORGANISM: Artificial					
83	<220>	FEATURE:					
84	<223>	OTHER INFORMATION: IXR-1-2 mutant					
85	<400>	SEQUENCE: 2					
86	atcccaagat	tctcctcttc	gtcttcctta	taaactatct	ctctgtagag	aagaaagctt	60
87	ggatccagat	tgagagagat	tcagagagcc	acatcaccac	actccatctt	cagatctcat	120
88	gatttgaact	attccgacgt	ttcgggtgtg	gaagcaacta	agtgacaaat	ggaatccgaa	180
89	ggggaaaccc	cgggaaagcc	gatgaagaac	attgttccgc	agacttgcca	gatctgtagt	240
90	gacaatgttg	gcaagactgt	tgatggagat	cgttttgttg	cttgtgatat	ttgttcattc	300
91	ccagtttgtc	ggccttgcta	cgagtatgag	aggaaagatg	ggaatcaatc	ttgtcctcag	360
92	tgcaaaacca	gatacaagag	gctcaaaggt	agtcctgcta	ttcctgggtga	taaagacgag	420
93	gatggcttag	ctgatgaagg	tactgttgag	ttcaactacc	ctcagaagga	gaaaatttca	480
94	gagcggatgc	ttggttggca	tcttactcgt	gggaaggagg	aggaaatggg	ggaaccccag	540

RAW SEQUENCE LISTING

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:31

Input Set : N:\vernnette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

95	tatgataaaag aggtctctca caatcatctt cctcgtctca cgagcagaca agatacttca	600
96	ggagagtttt ctgctgcctc acctgaacgc ctctctgtat cttctactat cgctggggga	660
97	aagcgccttc cctattcatc agatgtcaat caatcaccaa atagaaggat tgtggatcct	720
98	gttgactcg ggaatgtagc ttggaaggag agagttgatg gctggaaaat gaagcaagag	780
99	aagaatactg gtcctgtcag cacgcaggct gcttctgaaa gaggtggagt agatattgat	840
100	gccagcacag atatcctagc agatgaggct ctgctgaatg acgaagcgag gcagcctctg	900
101	tcaaggaaag tttcaattcc ttcatcacgg atcaatcctt acagaatggt tattatgctg	960
102	cggcttggtt tcctttgtct cttcttgcac taccgtataa caaaccagc gccaaatgcc	1020
103	tttgctctat ggctggctctc tgtgatattg gagatctggt ttgccttctc ctggattttg	1080
104	gatcagtttc ccaagtgggt tcctgtgaac cgtgaaacct acctcgacag gcttgcttta	1140
105	agatatgatc gtgaagggtga gccatcacag tttagctgctg ttgacatttt cgtgagtact	1200
106	gttgacccct tgaaggagcc accccttggt acagccaaca cagtgcctctc tattctggct	1260
107	gttgactacc cagttgacaa ggtgtcctgt tatgtttttg atgatgggtc tgctatgtta	1320
108	tcatttgaat cacttgacga aacatcacag tttgctcgta aatgggtacc attttgcaag	1380
109	aaatatagca tagagcctcg tgcaccagaa tggtagtttg ctgcgaaaat agattacttg	1440
110	aaggataaag ttcagacatc atttgtcaaa gatcgtagag ctatgaagag ggaatatgag	1500
111	gaatttaaaa tccgaatcaa tgcacttggt tccaaagccc taaaatgtcc tgaagaagg	1560
112	tgggttatgc aagatggcac accgtggcct ggaaataata caggggacca tccaggaatg	1620
113	atccaggctc tcttagggca aaatgggtga cttgatgcag agggcaatga gctccgcgt	1680
114	ttggtatatg tttctcgaga aaagcgacca ggattccagc accacaaaaa ggctgggtct	1740
115	atgaatgcac tgggtgagag tttagcagtt cttaccaatg gacctttcat cttgaatctt	1800
116	gattgtgatc attacataaa taacagcaaa gccttaagag aagcaatgtg cttcctgatg	1860
117	gacccaaacc tcgggaagca agtttggtat gttcagttcc cacaaagatt tgatgggtatc	1920
118	gataagaacg atagatatgc taatcgtaat accgtgttct ttgatattaa cttgagaggt	1980
119	ttagatggga ttcaaggacc tgtatatgtc ggaactggat gtgttttcaa cagaacagca	2040
120	ttatacgggt atgaacctcc aataaaaagta aaacacaaga agccaagtct tttatctaag	2100
121	ctctgtgggt gatcaagaaa gaagaattcc aaagctaaga aagagtcgga caaaaagaaa	2160
122	tcaggcaggc atactgactc aactgttccg gtattcaacc tcgatgacat agaagaggga	2220
123	gttgaagggt ctggttttga tgatgaaaag gcgctcttaa tgcgcgaat gagcctggag	2280
124	aagcgatttg gacagtctgc tgtttttgtt gcttctaccc taatggaaaa tgggtggtgtt	2340
125	cctccttcag caactccaga aaaccttctc aaagaggcta tccatgtcat tagttgtggt	2400
126	tatgaggata agtcagattg gggaatggag attggatgga tctatgggtc tgtgacagaa	2460
127	gatattctga ctgggttcaa aatgcatgcc cgtggatggc gatccattta ctgcatgcct	2520
128	aagcttccag ctttcaaggg ttctgtcctc atcaatcttt cagatcgtct gaaccaagt	2580
129	ctgaggtggg ctttaggttc agttgagatt ctcttcagtc ggcattgtcc tatatggtat	2640
130	ggttacaatg ggaggctaaa atttcttgag aggtttgcgt atgtgaacac caccatctac	2700
131	cctatcacct ccattcctct tctcatgtat tgtaattgct tagccgtttg tctcttcacc	2760
132	aaccagttta ttattcctca gattagtaac attgcaagta tatgggtttct gtctctcttt	2820
133	ctctccattt tcgccacggg tatactagaa atgaggtgga gtggcgtagg catagacgaa	2880
134	tgggtggagaa acgagcagtt ttgggtcatt ggtggagtat ccgctcattt attcgctgtg	2940
135	tttcaaggta tcctcaaagt ccttgccggg attgacacaa acttcacagt tacctcaaaa	3000
136	gcttcagatg aagacggaga ctttgcctgag ctctacttgt tcaaatggac aacacttctg	3060
137	attccgcaa cgacgctgct cattgtaaac tttagtggag ttgttgacag agtctcttat	3120
138	gctatcaaca gtggatacca atcatgggga ccactctttg ataagttgtt ctttgccctt	3180
139	tgggtgattg ttactttgta ccctttcctc aagggtttga tgggtcgaca gaaccgact	3240
140	cctaccattg ttgtggctctg gtctgttctc ttggtctcta tcttctcggt gttgtgggtt	3300
141	aggattgatc ccttcactag ccgagtcact ggcccggaca ttctggaatg tggaaatcaac	3360
142	tggttgagaag cgagcaaaata tttacctgtt ttgaggggta aaaaaaacac agaatttaaa	3420
143	ttatttttca ttgttttatt tgttcacttt tttacttttg ttgtgtgtat ctgtctgttc	3480

RAW SEQUENCE LISTING

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:31

Input Set : N:\vernette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

```

144      gttcttctgt cttggtgtca taaatttatg tgtagaatat atcttactct agttactttg      3540
145      gaaagttata attaaagtga aag      3563
147 <210> SEQ ID NO: 3
148 <211> LENGTH: 91
149 <212> TYPE: DNA
150 <213> ORGANISM: Artificial
151 <220> FEATURE:
152 <223> OTHER INFORMATION: Sequence of first 91 nucleotides of the Ath-B mRNA (clone)
153 <400> SEQUENCE: 3
154      ggactcgcgc gcctgcaggt cgacactagt ggatccaaag aattcgcggc cgcgtcgact      60
155      acggctgcga gaagacgaca gaaggggatc c      91
157 <210> SEQ ID NO: 4
158 <211> LENGTH: 19
159 <212> TYPE: DNA
160 <213> ORGANISM: Artificial
161 <220> FEATURE:
162 <223> OTHER INFORMATION: Primer Sequence
163 <400> SEQUENCE: 4
164      cgaacttgag acctcttga      19
166 <210> SEQ ID NO: 5
167 <211> LENGTH: 19
168 <212> TYPE: DNA
169 <213> ORGANISM: Artificial
170 <220> FEATURE:
171 <223> OTHER INFORMATION: Primer sequence
172 <400> SEQUENCE: 5
173      gcttacctgg agacagtca      19
175 <210> SEQ ID NO: 6
176 <211> LENGTH: 19
177 <212> TYPE: DNA
178 <213> ORGANISM: Artificial
179 <220> FEATURE:
180 <223> OTHER INFORMATION: Primer Sequence
181 <400> SEQUENCE: 6
182      catgatccat cgtcttagt      19
184 <210> SEQ ID NO: 7
185 <211> LENGTH: 18
186 <212> TYPE: DNA
187 <213> ORGANISM: Artificial
188 <220> FEATURE:
189 <223> OTHER INFORMATION: Primer sequence
190 <400> SEQUENCE: 7
191      aatatcgctt gtttttgc      18
193 <210> SEQ ID NO: 8
194 <211> LENGTH: 19
195 <212> TYPE: DNA
196 <213> ORGANISM: Artificial
197 <220> FEATURE:
198 <223> OTHER INFORMATION: Primer sequence

```

RAW SEQUENCE LISTING

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:31

Input Set : N:\vernette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

199 <400> SEQUENCE: 8	
200 tccaaagcta aatcgctat	19
202 <210> SEQ ID NO: 9	
203 <211> LENGTH: 19	
204 <212> TYPE: DNA	
205 <213> ORGANISM: Artificial	
206 <220> FEATURE:	
207 <223> OTHER INFORMATION: Primer sequence	
208 <400> SEQUENCE: 9	
209 ctccgtctat tcaagatgc	19
211 <210> SEQ ID NO: 10	
212 <211> LENGTH: 19	
213 <212> TYPE: DNA	
214 <213> ORGANISM: Artificial	
215 <220> FEATURE:	
216 <223> OTHER INFORMATION: Primer sequence	
217 <400> SEQUENCE: 10	
218 acctgaacca tcctccgtc	19
220 <210> SEQ ID NO: 11	
221 <211> LENGTH: 19	
222 <212> TYPE: DNA	
223 <213> ORGANISM: Artificial	
224 <220> FEATURE:	
225 <223> OTHER INFORMATION: Primer sequence	
226 <400> SEQUENCE: 11	
227 tcattttggc cgacttagc	19
229 <210> SEQ ID NO: 12	
230 <211> LENGTH: 22	
231 <212> TYPE: DNA	
232 <213> ORGANISM: Artificial	
233 <220> FEATURE:	
234 <223> OTHER INFORMATION: Primer sequence	
235 <400> SEQUENCE: 12	
236 tctccccact agttttgtgt cc	22
238 <210> SEQ ID NO: 13	
239 <211> LENGTH: 21	
240 <212> TYPE: DNA	
241 <213> ORGANISM: Artificial	
242 <220> FEATURE:	
243 <223> OTHER INFORMATION: Primer sequence	
244 <400> SEQUENCE: 13	
245 gaaatccaaa tcccagagag g	21
247 <210> SEQ ID NO: 14	
248 <211> LENGTH: 18	
249 <212> TYPE: DNA	
250 <213> ORGANISM: Artificial	
251 <220> FEATURE:	
252 <223> OTHER INFORMATION: Primer sequence	
253 <400> SEQUENCE: 14	

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 03/20/2003
PATENT APPLICATION: US/09/686,234D TIME: 14:53:32

Input Set : N:\vernette\US09686234D.raw
Output Set: N:\CRF4\03202003\I686234D.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 3
Seq#:3; Line(s) 152

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27

VERIFICATION SUMMARY

DATE: 03/20/2003

PATENT APPLICATION: US/09/686,234D

TIME: 14:53:32

Input Set : N:\vernette\US09686234D.raw

Output Set: N:\CRF4\03202003\I686234D.raw

L:6 M:270 C: Current Application Number differs, Wrong Format